Grain Cooperatives

FARMER COOPERATIVES IN THE UNITED STATES
COOPERATIVE INFORMATION REPORT 1
SECTION 15

U.S. DEPARTMENT OF AGRICULTURE
ECONOMICS, STATISTICS, AND COOPERATIVES SERVICE

CONTENTS

Cooperative Information Report I Section 15 May 1979

Cooperatives have made significant marketing progress in the past decade—forming an interregional export cooperative and a barge cooperative, moving grain by 50- and 100-car unit-trains, and manufacturing new products from grain.

Grain Cooperatives

Grain producers own and control a significant segment of the grain industry. Their holdings begin with local cooperative grain elevators and extend through subterminals, processing plants, and port elevators. Most of the local cooperative elevators are owned and operated by independent cooperatives that have their own board of directors. Producer members through their cooperatives also own and control regional grain cooperatives that perform complex marketing functions for local elevators.

This section discusses cooperative marketing of all types of food and feed grains except rice which is covered at the end of the report. Dry edible beans and peas are discussed in another pamphlet in this series of various kinds of marketing and supply cooperatives.

Number of Grain Cooperatives, Volume, And Share of Market

In fiscal 1976, about 1,986 cooperatives were engaged primarily in the marketing, handling, or processing of grain and soybeans (rice and dry beans excluded). These associations had an estimated total membership of 1,254,636. To a lesser degree, about 613 other cooperatives performed handling, marketing, and processing functions related to grain and soybeans.

Altogether, 2,599 associations handled grain, soybeans, and soybean products with a net sales value of $10.6 billion in 1975-76. These data, except for sales value, have not increased significantly since 1950-51.

However, the functions performed and grain volume handled have increased significantly. This is best demonstrated by

the physical volume of grain sales of regionals that increased from 310 million bushels in 1951 to 1.9 billion bushels in 1976. This reflects the increase in volume handled through local cooperative elevators and the expanded scope of regional cooperative activity.

In 1975-76, local grain cooperatives handled a volume that is estimated to be at least 40 percent of total farm grain sales. This rough estimate is based on data for selected individual States.

Regional grain cooperatives, in turn, handled an estimated 40 percent of the volume sold by local cooperatives. Accordingly, 14 of the largest primary grain regionals have handled from 17 to 23 percent of farm grain sales during the past 7 years ending in fiscal 1976.

Export movements by the grain regionals increased significantly after 1972. In fiscal 1976, regionals originated 1.07 billion bushels for export, or 55 percent of their total volume. Of this total, 289 million bushels were directly exported, which represents about 3.4 percent of all farm grain sales.[1]

Early History of Cooperative Elevators

The formative years of farmer owned grain cooperatives may be classed as follows: (1) Local elevators, 1857 to 1920, (2) State associations, 1889 to 1919, (3) national associations, 1912-1933, (4) regional grain cooperatives, 1911-1932, and (5) Farmers National Grain Corporation 1929-1938. Regional cooperative grain activity from 1938 to the present is discussed in a subsequent section.

Formation of Local Elevators

The first elevator of record was established in Wisconsin in 1857. In the late 1860's, farmers' elevators were built in Iowa. The idea spread into other grain States. In the 1870's, the Grange of Illinois and Minnesota owned or leased a number of local elevators. From 1876 to 1885, the number of cooperative elevators in operation declined rapidly. However, in about 1885 a new development of farmers' elevators got underway and expanded

[1]These data represent marketing years for farm sales and fiscal years for regional cooperative volume and, thus, are not strictly comparable because of slightly different months covered.

Farmers in the 1930's relied on mules, trucks, and steam locomotives for power to transport grain in Lancaster, Kans. One of the older grain cooperatives still operating is at Rockwell, Ia. The cooperative has since modernized and changed its name to Farmers Community Cooperative, Inc.

until farmers were represented at nearly every shipping point throughout the Grain Belt. By 1920, an estimated 4,000 of these organizations were operating.

Formation of Statewide Associations

Grain cooperatives in many States eventually formed Statewide associations. The first was in 1889 when five local elevators in Iowa formed an association. In 1903, the Nebraska Farmers Grain Dealers Association and Illinois Farmers Grain Dealers Association were organized. Similar organizations were established in nearly all the Grain Belt States during the period 1903-19. These State organizations did not market grain; however, they helped greatly in stimulating cooperative endeavor, helping new cooperatives to organize and old ones to reorganize.

Formation of National Associations

Just as the local elevators found it desirable to form State associations, the State associations, in turn, formed two national organizations. The objectives of the two national organizations were much the same. They did not buy and sell grain in the terminal markets. Instead they sought to encourage development of cooperative grain marketing at the local and terminal markets. And both tried to improve marketing practices to give the grain grower the largest possible return for his product.

The first of these organizations was the National Council of Farmer Cooperative Associations formed in Minneapolis on June 18, 1912, by the State grain marketing associations of Illinois, Minnesota, South Dakota, and North Dakota. The name was changed to Farmers National Grain Dealers Association in 1920, and membership was expanded to include the State grain marketing associations of Ohio, Indiana, Kansas, Missouri, Oklahoma, and Colorado.

The second organization was the National Cooperative Elevator Association of Omaha, Neb., organized in 1933. Its membership included associations from Nebraska, Kansas, Oklahoma, and Iowa. Thus farmers, through joint action, attempted to extend the cooperative influence into the terminal market.

Regional Grain Cooperatives

Cooperatives began marketing grain at the terminal level shortly before World War I, and the number of such cooperative organizations reached a high point in 1932. Two types of regional grain cooperatives developed during this period—wheat pool associations and terminal sales agencies.

Wheat Pools—The wheat pool movement was popular during the early 1920's and was based on the principle of orderly marketing. Producers holding membership in a "pool" agreed to market all their grain through their local elevator; the local elevators, in turn, combined to make up the pool for sales at the terminal market.

Leaders of the wheat pool movement believed that regulating grain sales would stabilize the market price. However, the wheat pools never did handle enough grain to influence prices.

The wheat pool movement came to an end in the United States in 1930, and all pools then in operation joined the Farmers National Grain Corporation in Chicago.

Terminal Sales Agencies—Cooperative terminal sales agencies were established by groups of local cooperatives to market grain at terminal markets. The first agency was the Equity Cooperative Exchange organized at St. Paul, Minn., in 1911. Others followed: Pacific Northwest Tri State Terminal, Seattle, Wash. (1911); Washington Wheat Growers Assn., (1920); Equity Commission Company, Hutchinson, Kans. (1914)—later known as the Farmers Cooperative Commission Company; The Farmers Union Jobbing Company, Kansas City, Mo. (1914)—later known as the Farmers Union Cooperative Marketing Assn.; Equity Union Exchange, Kansas City, Mo. (1916)—later known as Equity Union Company, Lincoln, Nebr.; and Montana Grain Growers, Great Falls (1918). Some of the agencies failed for various reasons, and others exist today as part of a merged regional grain cooperative under another name.

The number of regional grain marketing cooperatives increased rather rapidly after 1919. In 1920, there were 5 active regional grain marketing associations; in 1932, there were 29.

Farmers National Grain Corporation

The Agricultural Marketing Act of 1929 authorized the creation of the Federal Farm Board. Its function was to assist farmers in organizing and managing cooperative marketing associ-

ations; and to provide loans for cooperatives to strengthen and develop a strong, comprehensive marketing organization. To carry out the objectives of the Act, the Board set up the Farmers National Grain Corporation, a national marketing cooperative headquartered in Chicago. It was incorporated on October 29, 1929, after a conference that year by 32 regional grain marketing cooperatives.

The Farmers National was not a Government agency. It was a private corporation set up under the laws of Delaware, with regional grain marketing cooperatives as stockholders. Ten of the larger regional grain cooperatives were the original stockholders; they were later joined by 17 others. Nearly all the regional associations turned over their marketing functions to the new national sales agency.

Almost from its beginning, the Farmers National was closely allied with the Grain Stabilization Corporation. This agency was set up by the Federal Farm Board in February 1930 to "peg" grain prices. This was accomplished by buying and storing grain, and much of the grain purchased by Farmers National was sold to the Stabilization Corporation.

This move toward centralized marketing did not hold the support of enough local associations, and the Farmers National was liquidated in 1938. At that time, the remaining assets were taken over by the Farm Credit Administration. The former members of the Farmers National reorganized and began operating again as separate regional or terminal sales agencies.

On the whole, the Federal Farm Board's efforts to maintain wheat prices were not successful, although they did temporarily slow down the rate of decline. The Board's attempt to create a more comprehensive system of cooperative marketing was equally unsuccessful.

Grain Cooperatives Since 1938

After dissolution of the Farmers National in 1938, most of the former members reorganized, acquired their own facilities, and began operating as regional or terminal sales agencies to serve member cooperative elevators at local shipping points.

Regionals, then and now, operate basically as federated cooperatives; that is, their members, owners, and patrons are the local farmer cooperatives. The locals, on the other hand, are set

up and operate as centralized organizations with direct producer ownership and patronage.

In 1938-39, there were 2,540 cooperatives that marketed grain, soybeans, rice, or dried edible beans. Total producer membership was 367,000. In 1975-76, there were 2,052 cooperatives in this group and their membership totaled 1,270,204. The greatest change in number of cooperatives and membership occurred in the 1940's.

From 1950 through 1961, the number of grain cooperatives, excluding rice and dried beans, at year end declined by about 196 associations, and producer membership increased by some 200,000. From 1960 through 1971, the number of grain cooperatives increased by 28 to 2,030, and producer membership increased by 153,000. In 1975-76, there were about 1,986 grain associations whose producer membership totaled 1,255,000 compared with 1,202,000 in 1970-71 (table 1).

Many important events affected grain marketing between 1938 and 1975. Among them were: World War II, increasing grain production and farm sales, huge buildup of Government grain stocks and subsequent reduction in stocks, increasing commercial and farm storage capacity, more rapid and efficient harvesting; and more recently, rapid inflation, and a higher level of grain exports.

Growth of Local Cooperatives

Many local cooperatives today are a result of the unification of two or more locals through merger or acquisition. About 80 percent are member-owners of a regional grain cooperative. Grain producers are also served by line elevators of some regionals. However, they represent a relatively small portion of local cooperative elevators.

Cooperatives now have an estimated 40 percent of U.S. storage capacity located at country points and handle about that same percentage of farm sales at the first buyer level. The tremendous growth in farm grain sales from 1.7 billion bushels in 1938 to 8.4 billion bushels in 1975—nearly a 400-percent increase—reflects the tremendous challenge and opportunity cooperatives have had.

Local grain cooperatives have responded by expanding facilities during the period. Since World War II, locals have developed much larger storage capacity, greater ability to handle and condition grain, more sophisticated elevator equipment,

Local cooperatives have modernized many ways. Farmer Cooperative Grain Co., Haven, Kans., has a computer link with its regional, Far-Mar-Co, for market information and accounting services. Breckenridge and Wheeler Cooperative, Breckenridge, Mich., has purchased or leased hopper cars to be assured of grain transportation.

Table 1—Grain cooperatives: Estimated number of associations and membership, 1961-76[1]

Fiscal year ending	Associations	Memberships
	Number	*1,000*
1961	2,002	1,050
1962	1,970	1,047
1963	1,974	1,069
1964	1,983	1,107
1965	1,975	1,169
1966	1,957	1,190
1967	1,938	1,138
1968	1,914	1,134
1969	1,897	1,134
1970	1,894	1,120
1971	2,030	1,202
1972	2,005	1,296
1973	2,006	1,306
1974	2,012	1,301
1975	n/a	n/a
1976	1,986	1,255

[1]Cooperatives having grain, soybeans, or soybean products as the major business activity. Excludes rice and dry edible associations.

increased ability to ship large quantities, and often more unit locations under a single management.

Investment requirements were met with the use of producer investments, retained savings, and facility and commodity loans largely from the banks for cooperatives supervised by the Farm Credit Administration.

A large portion of local grain cooperatives also have handled increasing volumes of farm supplies. In some instances, farm supply dollar sales have been nearly as large as that for grain. Farm supply operations included various items and services such as fertilizer blending and distribution, petroleum products distribution, feed milling and distribution, building supplies, pesticides, steel products, seed and many other items. The combination of grain and farm supplies in a local cooperative generally provides greater efficiency in operation and service to members.

Progress of Regional Grain Cooperatives

The number of regional grain cooperatives rose from 19 in 1939 to 28 in 1967, and subsequently declined to the present 24. This principally reflects the merger of existing regionals, growth of grain marketing departments within other regionals, and the formation of new cooperatives, including interregionals. Of the 19 regionals in 1939, only 12 retain their identity today.

Mergers were implemented primarily to strengthen the bargaining position of farmers, and improve services and efficiency. In 1950, Indiana Grain Cooperative and Indiana Farm Bureau Cooperative Association, both of Indianapolis, merged. The former had operated as a division of IFBCA.

A short time later, Illinois Grain Terminals, which owned a number of elevators, merged with Illinois Grain Corporation of Chicago, which had been operating as a commission firm. About the same time, Missouri Farmers Association of Columbia, and Producers Grain Commission Company of St. Louis, consolidated under the name of the former.

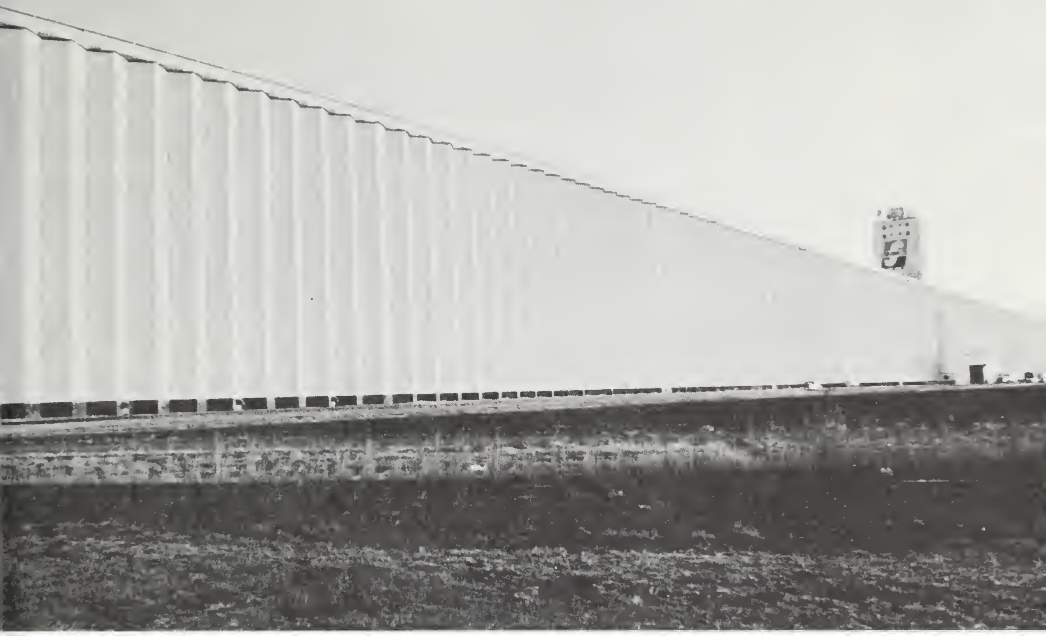
In the fall of 1962, Michigan Elevator Exchange, a marketer of grain and dry beans, became a division of Farm Bureau Services, Inc., a regional farm supply cooperative, whose headquarters are in Lansing, Mich.

In 1964, Farmers Union Cooperative Marketing Association of Kansas City, and Farmers Union Terminal Elevator of Denver, merged. Farmers Union Cooperative Elevator Federation of Omaha, later joined them. Its headquarters were in Kansas City. Also in 1964, United Grain Company of Champaign, Ill., merged with Illinois Grain Corporation of Chicago.

In 1968, a major merger took place. Farmers Cooperative Commission Co. of Hutchinson, Kans., Westcentral Cooperative Grain Co. of Omaha, Farmers Union Cooperative Marketing Assn. of Kansas City, and Equity Union Grain Co. of Lincoln, merged under the name Far-Mar-Co, Inc., and is headquartered in Hutchinson.

In 1977, Far-Mar-Co merged with Farmland Industries, Inc., Kansas City, Mo., and continued operations in its Hutchinson office as a subsidiary corporation of Farmland Industries. The combination of the two cooperatives created a single entity with a combined annual sales volume in excess of $3 billion.

Interregional cooperatives also were formed by existing grain regionals to perform functions they believed could be



Far-Mar-Co's terminal elevator "B" in Hutchinson, Kans., is nearly a half-mile long and can store 18 million bushels of grain. It's the longest elevator in the world with one headhouse. North Pacific Grain Growers, Portland, Oreg., orginates bargeloads of white wheat, hard red winter wheat, dark northern spring wheat, and feed barley from its 5.3-million-bushel river terminal at Kennewick, Wash., on the Columbia River.

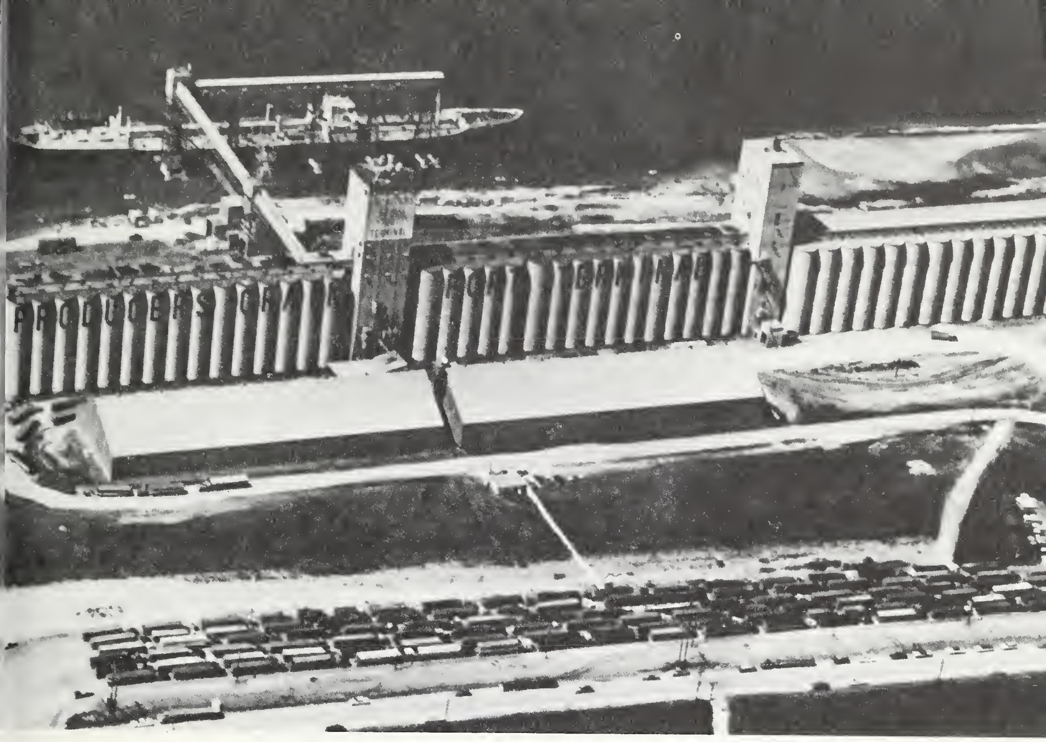
performed more effectively by joint effort. This was a third level of cooperative activity. In 1958, Producers Export Co., New York City, was incorporated with 19 of the regional grain cooperatives as charter members. Producers Export shipped an average of about 50 million bushels annually until 1968 when it encountered financial reverses. The following year, it discontinued operations. Failure of this interregional export cooperative was primarily the result of inadequate volume commitment by member regionals, inadequate financing, and the lack of cooperatively controlled port elevator facilities.

Shortly after Producers Export began operation, four regionals in Ohio, Indiana, and Michigan organized Mid-States Terminals, Toledo, in 1959. Mid-States and its members were also members of Producers Export Co.

In 1963, St. Louis Grain Corporation was organized by Illinois Grain Corporation, Chicago; Farmers Union Grain Terminal Association, St. Paul, Minn.; and Missouri Farmers Association, Columbia. They acquired terminal elevator facilities on water at St. Louis, its headquarters. In 1964, Agri Industries, Inc., Des Moines, Iowa, joined.

In 1968, seven regionals jointly formed a new export cooperative, Farmers Export Co. They were: Farmers Union Grain Terminal Association, St. Paul, Minn.; Agri Industries, Inc., Des Moines, Iowa; Far-Mar-Co, Inc., Hutchinson, Kans.; Illinois Grain Corporation, Bloomington; TFC Marketing Service, Inc., La Vergne, Tenn. (no longer a member after being purchased by Gold Kist, Atlanta, Ga., in 1974); MFC Services (AAL), Jackson, Miss.; and Missouri Farmers Association, Inc., Columbia. They completed building a new 5.3 million bushel elevator at Ama, La., in November 1968, and purchased a 4.0 million bushel elevator in 1977 at Galveston, Texas, and a 3.4 million bushel elevator in 1979 at Philedelphia, Pa. Headquarters are in Overland Park, Kans., near Kansas City. Six more cooperatives have become part of Farmers Export. They are: Michigan Farm Bureau Services, Inc., Lansing; Kansas City Terminal Elevator, Kansas City, Mo.; Landmark, Inc., Columbus, Ohio; Ohio Grain Corporation, Fostoria; St. Louis Grain Corporation, St. Louis, Mo.; and Indiana Farm Bureau Cooperative Association, Indianapolis.

In 1974, Gold Kist expanded its country grain elevator operations with the acquisition of 20 elevators from TFC Marketing Service, Inc., a regional cooperative headquartered at La Vergne, Tenn.



Producers Grain Corporation, Amarillo, Texas, has a 6.4-million-bushel elevator (above) at Corpus Christi for exporting grain sorghum and soybeans. Farm Bureau Services, Lansing, Mich., recently rebuilt its 2-million-bushel export elevator in Saginaw, from which dried edible beans and grains are exported.

How Grain Cooperatives Are Organized and Operated

The outstanding aspect of cooperative organization is producer control. The some 2,500 local and regional cooperatives owned by about 1 million grain producers handle about 40 percent of off-farm grain sales. A total of 20 grain cooperatives are classified as primary grain regionals, 4 as interregionals, and the remainder as local cooperatives. Most of the local cooperatives are members of a federated regional; however, some prefer to remain unaffiliated. Each local cooperative has its own board of directors elected from among its producer-members.

Most of the regionals are organized on a federated basis; however, some are on a centralized basis. In the latter case, grain producers are direct members of the regional whose country, subterminal, and terminal elevators are managed by the regional.

Several regional grain cooperatives are more than just a grain marketing regional. They perform other marketing operations, process grain, handle farm supplies, and provide various other services. For some, grain marketing operations represent less volume than do farm supply and service operations.

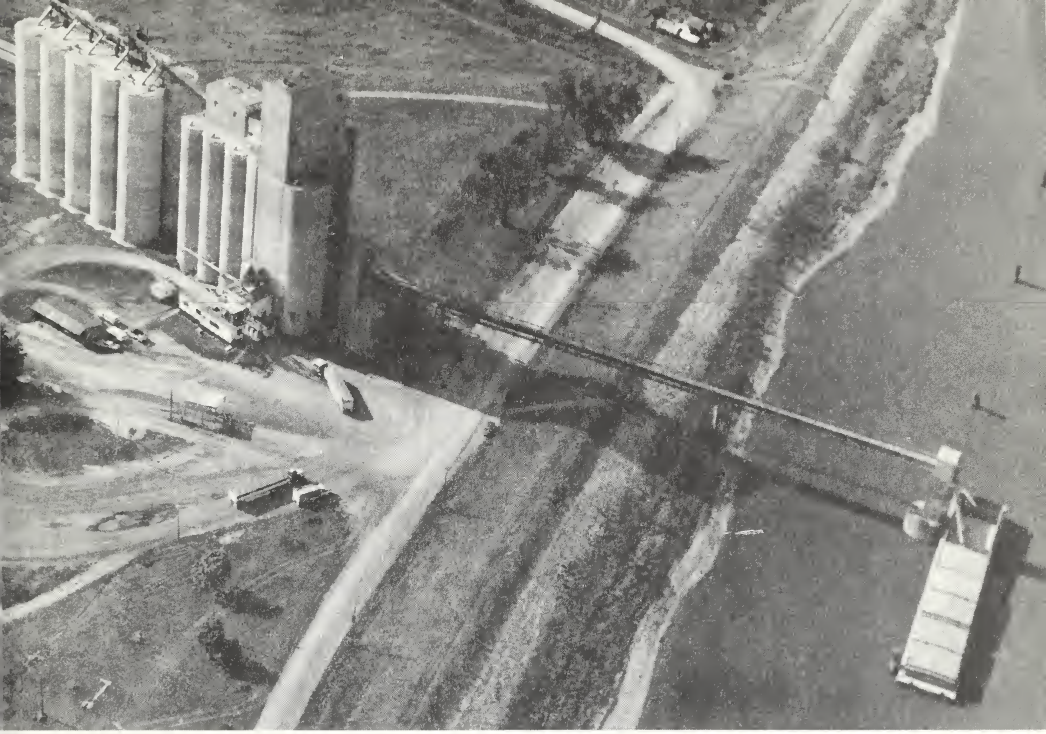
The fourteen primary grain regionals and 4 interregionals handle about 97 percent of total volume of all regionals. These 18 major regionals serve member cooperatives and grain producers in about 24 grain producing States. Headquarters location and States served are shown in table 2.

Financing Methods

Cooperatives that have made major expenditures for grain facilities generally have obtained term loans for most of their needed capital; however, in some instances, depending on their financial condition, they have had to raise new capital from their membership. The members of new cooperatives are usually required to furnish about 50 percent of their capital requirements for facilities.

Working capital requirements for inventory and accounts receivable vary seasonally. Maximum requirements generally occur during and immediately after the peak of harvest receipts. Requirements may also be high at other times of the year when grain movements are high.

Cooperatives normally establish a line of credit agreement with their bank, which provides for an upper loan limit and other



Agri Industries, Des Moines, Iowa, originates bargeloads of corn and soybeans for export from its 1.2-million-bushel river terminal (above) at Muscatine, Iowa. Farmers Union Grain Terminal Association, St. Paul, Minn., built a 145,000-bushel river grain terminal at Winona, Minn., in 1975 and expanded it to 320,000 bushels in 1978.

Table 2—Name and headquarters location for 14 primary and 4 interregional grain cooperatives

Name of regional cooperative or division	Headquarters	States or portions of States served
Primary regional:		
Agri Industries, Inc.	Des Moines, Iowa	Iowa
Far-Mar-Co, Inc.	Hutchinson, Kans.	Kans., Nebr., Colo.
Farmers Union Grain Terminal Association	St. Paul, Minn.	Minn., N. Dak., S. Dak., Mont.
Gold Kist Inc.	Atlanta, Ga.	Ga., S.C., Fla., Ala., Tenn.
Illinois Grain Corporation	Bloomington, Ill.	Ill.
Indiana Grain Cooperative[1]	Indianapolis, Ind.	Ind.
Landmark, Inc.	Columbus, Ohio	Ohio
Michigan Elevator Exchange[2]	Lansing, Mich.	Mich.
Missouri Farmers Association	Columbus, Mo.	Mo.
North Pacific Grain Growers	Portland, Oreg.	Oreg., Wash., Idaho
Ohio Farmers Grain Corp.	Fostoria, Ohio	Ohio
Producers Grain Corporation	Amarillo, Tex.	Tex., Okla.
Riceland Foods, Inc.	Stuttgart, Ark.	Ark.
Union Equity Cooperative Exchange	Enid, Okla.	Okla, Kans., Tex.
Interregional:		
Farmers Export Co.	Kansas City, Mo.	Iowa, Ill., Ind., Mich., Mo., Minn., Kans., Nebr., Ohio
Kansas City Terminal Elevator Co.	Kansas City, Mo.	Mo. Kans.
Mid-States Terminals	Toledo, Ohio	Ohio, Ind., Mich.
St. Louis Grain Corp.	St. Louis, Mo.	Ill., Mo., Iowa, Minn.

[1]A division of Indiana Farm Bureau Cooperative Ass'n., Indianapolis, Ind.
[2]A division of Farm Bureau Service, Inc., Lansing, Mich.

terms. Usually the terms permit the cooperative to vary the amount of the loan commensurate with the variation in grain inventories and accounts receivable. The banks for cooperatives have provided the major portion of the loan requirements of grain cooperatives.

Financial data on 2,074 cooperatives handling grain and farm supplies (exclusive of rice) in 1976 showed they had more than $5.7 billion worth of assets. Forty-seven percent of their assets was represented by equity capital, 25 percent by borrowings, and 25 percent by other liabilities.

At end of 1976, about 40 percent of their $2.7 billion of

equity capital was evidenced by capital stock; 42 percent by equity certificates or allocated credits; and 17 percent by unallocated reserves or surplus. Almost 88 percent of their *allocated* equity capital had been acquired by retention of patronage refunds, 1 percent by capital retains, and 5 percent by purchase of capital stock.

A comparison of cooperatives handling grain and farm supplies in 1970 and 1976 reveals some significant changes over the 6-year period (table 3). Total assets increased from $2.2 billion to $5.7 billion; member equity increased from $1.1 billion to $2.7 billion; and annual net margins increased from $90.0 million to $637.4 million. Member equity as a percent of total assets dropped slightly from 49 to 47 percent.

The proportional distribution of net savings in 1970 and 1976 did not differ greatly except for dividends on capital, which dropped from 6.7 percent in 1970 to 2.0 percent in 1976. Noncash patronage refunds remained the largest distribution at 54.0 percent of total, followed by cash patronage refunds, 26.8 percent; unallocated reserves (surplus), 11.0 percent; and income taxes, 6.2 percent.

Scope of Operations

Local Grain Cooperatives—The local grain cooperative receives grain from its member-producers. Such grain includes food grains, feed grains, soybeans and flax.

Table 3—Comparison of assets, member equity, net savings, grain marketing cooperatives, fiscal 1970 and 1976[1]

Item	1970	1976
	Million dollars	
Total assets	2,217.0	5,717.0
Member equity	1,086.3	2,681.3
Total net margins	90.0	637.4
	Percent	
Distribution of net savings:		
Dividends on capital	6.7	2.0
Cash patronage refunds	26.6	26.8
Noncash patronage refunds	54.9	54.0
Unallocated reserves (surplus)	7.5	11.0
Income taxes	4.3	6.2
Total	100.0	100.0

[1]Data was obtained from 2,221 primarily grain local and regional cooperatives in 1970 and 2,074 in 1976.

The local grain cooperative usually extends its operations to serve producers within 5 to 30 miles of the cooperative grain elevator; however, in some areas the distance may be even greater due to the sparsity of grain production and the lack of rail service. The operating or trade area for local grain cooperatives may cover parts of several adjacent counties, an entire county, part of one county, or even two or three counties. Many local cooperatives have multiple units; that is, elevators located in two or more towns.

Regional Grain Cooperatives—The regional grain cooperative receives grain from its member local cooperatives. In the instance of a centralized regional cooperative, the grain is acquired direct from producer members through its centrally controlled line elevators. Regional cooperatives vary in size of geographical area served and in functions performed. For example, one of the larger regionals, Farmers Union Grain Terminal Assn., serves more than 600 member and line local elevators in Montana, North Dakota, South Dakota, and Minnesota. By comparison, Riceland Foods has 29 line country elevators or subterminals in just Arkansas.

At the *national* level, there are no operating grain cooperatives. However, operating regionals are represented at the national level by the Grain Division of the National Council of Farmer Cooperatives in Washington, D.C. This division coordinates efforts relating to legislation, administrative regulations, and other common interests of its cooperative members.

Type of Operations

Local cooperative grain elevators perform the functions of receiving, conditioning (drying, mixing, blending), handling, storing, shipping, and selling grain. Grain is commonly purchased under a pricing arrangement such as: (1) Posted cash price on delivery, (2) forward pricing, (3) delayed pricing (price later), and (4) reservation pricing (call pool). At the end of the year, net savings are prorated to producer-members as patronage refunds.

In some instances, grain is received from producers into a marketing pool under a marketing agreement. A partial payment or advance is made to producers on delivery of grain and subsequent pool payments are made as grain is sold.

At the regional level, grain acquired from local cooperatives and producers by regional grain cooperatives is sold to various domestic and foreign buyers; however, a significant portion is

processed by regionals. At end of year, net savings are prorated to members (cooperatives and/or producers).

Also at the regional level, marketing functions are performed by two specialized regionals. Soy-Cot Sales, Inc., at Des Plaines, Ill., owned by cooperative soybean and cottonseed cooperatives, performs important oil and meal marketing functions for its members. Sales on a brokerage basis are made to domestic and foreign markets. Illinois Futures Trading Co., Chicago, owned by member cooperatives throughout the United States, performs vital services for them in futures transactions on the Chicago Board of Trade.

Extent of Vertical Integration

Grain cooperatives have made only moderate progress toward vertical integration. The extent of such integration can be measured by examining the following: (1) Formal marketing commitments, (2) disposition by local cooperatives, (3) grain disposition by regionals, (4) export operations, (5) grain processing by regionals, and (6) organizational relationships.

Formal Marketing Commitments—Formal commitments between producers and grain cooperatives have been used to a limited extent. Formal commitments between local cooperatives and regional grain cooperatives are clearly lacking according to an ESCS study.[2] Only 9.7 percent of the responding local cooperatives had a contract or commitment to market some quantity of grain through a regional cooperative.

The total quantity of grain marketed by local cooperatives under a formal marketing agreement is relatively small. A few regional grain cooperatives operate a grain marketing pool involving marketing agreements with producers. Riceland Foods, Stuttgart, Ark., operates a pooling system for soybeans and rice. Michigan Elevator Exchange, a division of Farm Bureau Services, Lansing, Mich., has pools for dried edible beans and wheat. Far-Mar-Co, Inc., Hutchinson, Kans., initiated a market agreement and pooling program for the 1976 crop of wheat. Agri Industries, Inc., Des Moines, Iowa, and Farmers Union Grain Terminal Association (GTA) also initiated similar programs for 1976 crops. The Agri Industries program was for corn only, where the GTA program covered corn, spring wheat, durum, and Montana winter wheat.

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[2]Kraenzle, Charles A. and Yager, Francis P., Grain Marketing Patterns of Local Cooperatives, FCS Research Report 31, October 1975, pp. 19-29.

Disposition of Grain by Local Cooperatives—In 1971-72, local grain cooperatives sold an estimated 19 percent of their grain to local outlets, 50 percent to other cooperatives (mostly their regionals), and 31 percent to other grain dealers.[3] The significant portion going to other grain dealers indicates the relatively large quantity of grain that leaves the cooperative system between the first and second buyer levels. There are no indications that the disposition pattern of local cooperatives has changed since 1971-72.

Disposition of Grain by Regional Cooperatives—Further insight as to the amount of vertical integration is provided by an analysis of the volume of regional cooperatives' sales in comparison to U.S. farm sales of grain (table 4). During the 7 fiscal years, 1970 to 1976, regionals marketed abut one-fifth of U.S. farm grain sales. The percentage varied from 16.6 percent in 1972 to 23.0 percent in 1975. Effective vertical integration among grain cooperatives could be greatly enhanced if local cooperatives were to increase the share they sell to their regionals.

In 1975-76, the 14 primary regionals and 4 interregionals handled a net total of 1.9 billion bushels of grain, excluding rice.

Table 4—Farm grain sales, regional cooperative sales, and percentage of farm sales handled by 14 regional grain cooperatives, fiscal year 1970 through 1976[1]

Fiscal year ending	Crop years	U.S. farm sales[2]	Regional co-op sales[3]	Regional sales as a percentage of farm sales
		Mil. bu.	*Mil. bu.*	*Pct.*
1970	1969-70	6,300	1,118	17.7
1971	1970-71	5,886	1,165	19.7
1972	1971-72	7,229	1,205	16.6
1973	1972-73	7,212	1,624	22.5
1974	1973-74	7,942	1,559	19.6
1975	1974-75	6,776	1,561	23.0
1976	1975-76	8,385	1,895	22.6

[1]Includes folowing grains: wheat, corn, oats, barley, sorghum, soybeans, rye, and flax.

[2]Reflects crop years closely corresponding to fiscal years.

[3]Data for fiscal years 1970, 1971, and 1972 are approximate.

[3]See footnote 2.

Of this total, 139 million bushels were processed in regionals' own plants, 726 million bushels were sold domestically, and 1.07 billion bushels were sold for export.

Exporting Operations—Eight regional grain cooperatives operated nine port grain elevators in 1976. Their port storage capacity totaled 58 million bushels, or about 17 percent of total U.S. port capacity. In 1976, regional cooperatives shipped about 1.07 billion bushels of grain, or about 55 percent of their total grain volume, to port elevators for export. A total of 617 million bushels were handled through the 9 cooperative port elevators of which 289 million bushels were sold directly to foreign buyers. The extension of cooperative grain marketing to include the operation of port elevators and the sale of export grain has greatly strengthened the position of grain cooperatives (table 5).

Table 5—Grain disposition by type of outlet for 14 primary regional grain cooperatives and 4 interregionals, fiscal years ending 1975 and 1976

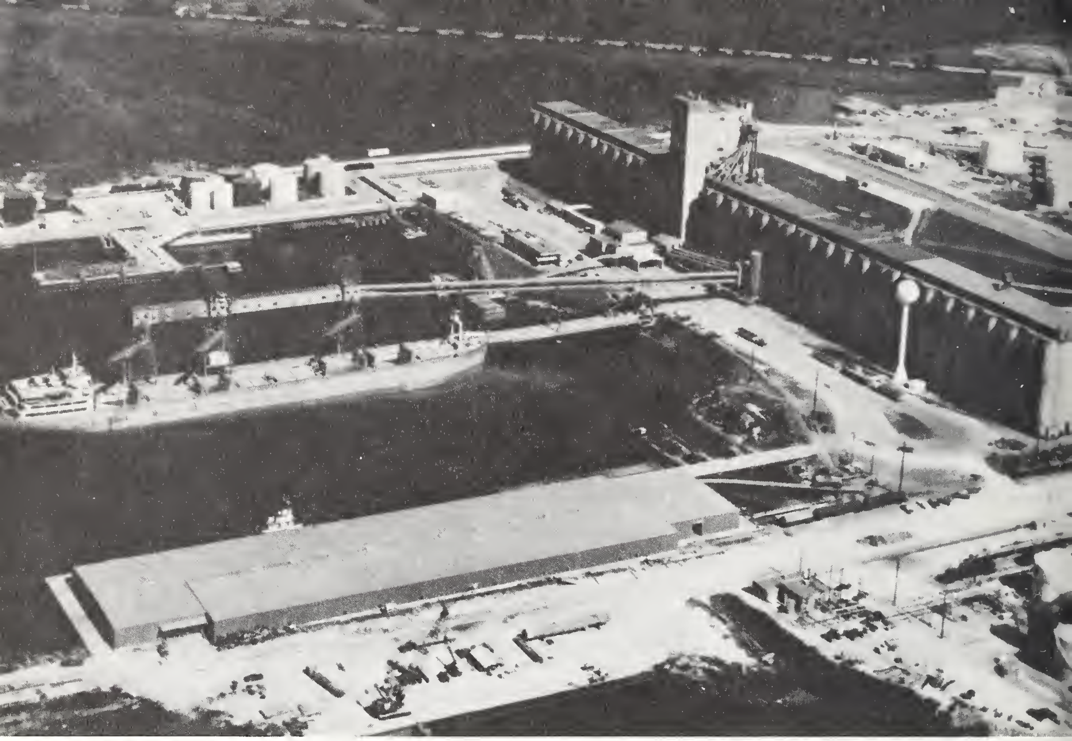
Type of outlet	1975	1976
	Million bushels	
Processed in own plant	111.9	138.8
Domestic sales	563.8	726.4
Total domestic disposition	675.7	865.2
Export disposition:[1]		
Controlled to ship:		
Direct exports[2]	250.8	289.4
Indirect exports	272.7	327.2
Total controlled	523.5	616.6
Other indirect exports[3]	392.0	450.6
Total export disposition	915.5	1,067.2
Total disposition[4]	1,591.2	1,932.4

[1]Export disposition means the total grain shipped to a port position. The portion that regionals control all the way aboard a ship includes both direct and indirect exports.

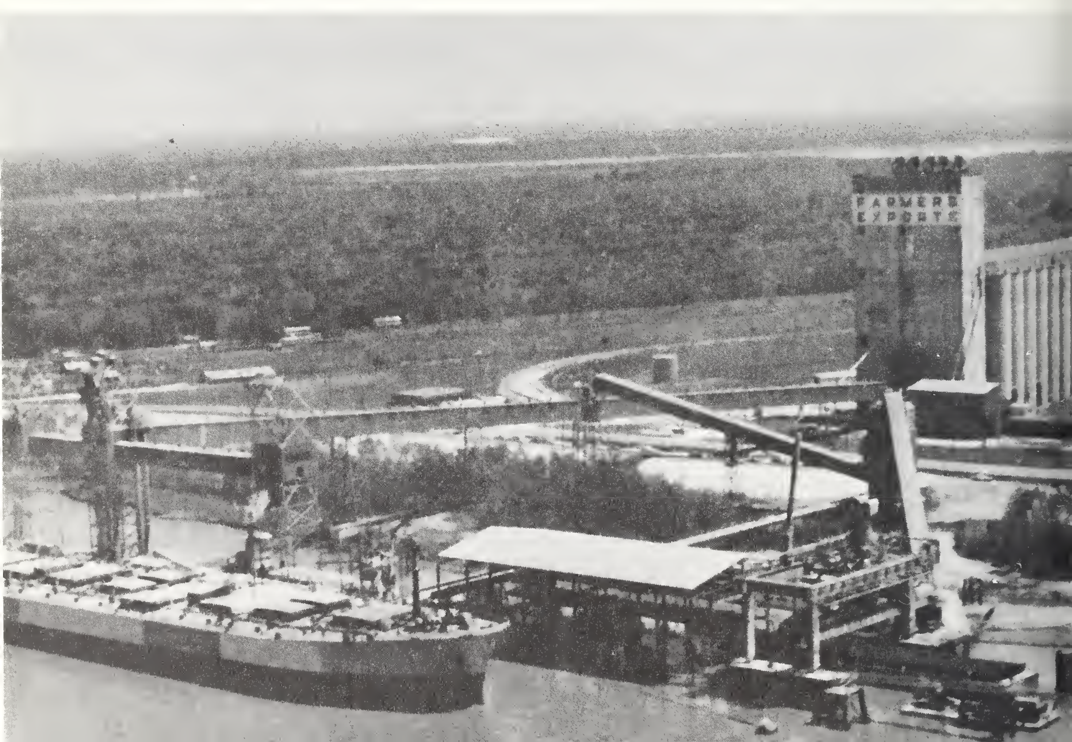
[2]Direct export represent volume sold directly to a foreign buyer and handled through a co-op port elevator.

[3]Other indirect exports represent movements to nonco-op port elevators.

[4]This reflects the elimination of duplicate volume between regionals, adjustments for final regional disposition, and additions for non-member volume of interregionals.



The first cooperatively built export elevator in the Gulf of Mexico (above) was the Union Equity Exchange facility on the Houston ship channel at Deer Park, Texas. Farmers Export, an interregional export cooperative began with this elevator at Ama, La., and has since added facilities at Galveston, Texas, and Philadelphia, Pa.



Grain Processing by Regionals—In recent years, several regional grain cooperatives have improved opportunities for savings to members by moving into the processing of soybeans and other grain. Regional grain cooperatives have eight soybean processing plants, and seven other grain processing plants, not including feed mills (table 6). In addition to soybeans, the regionals also process flax, wheat, malting barley, sunflowers, and feed grains. Products produced include soybean meal, oil, and byproducts; textured vegetable protein; semolina flour; soft wheat flour; linseed meal and oil; sunflower meal and oil; and malt.

Table 6—Grain processed and products produced by regional grain cooperatives, 1976

Kind of grain and regional cooperative	Plant location	Grain products produced
Soybeans		
Agri Industries, Inc.	Mason City, Iowa	Meal, oil
Far-Mar-Co, Inc.	Hutchinson, Kans.	Textured vegetable protein
Far-Mar-Co, Inc.	St. Joseph, Mo.	Meal, oil, flour
Farmers Union GTA	Mankato, Minn.	Meal, oil
Gold Kist Inc.	Valdosta, Ga.	Meal, oil
Gold Kist Inc.	Decatur, Ala.	Meal, oil
Missouri Farmers Assn.	Mexico, Mo.	Meal, oil, lecithin
Riceland Foods, Inc.	Stuttgart, Ark.	Meal, oils, byproducts
Riceland Foods, Inc.	Helena, Ark.	Meal, oil, byproducts
Durum		
Farmers Union GTA	Rush City, Minn.	Semolina flour
Soft Wheat		
Michigan Elevator Exchange	Quincy, Mich.	Flour
Agway, Inc.	Churchville, N.Y.	Flour
Flax and Sunflowers		
Farmers Union GTA	Fridley, Minn.	Linseed meal, oil; sunflower meal, oil
Malting Barley		
Farmers Union GTA	Milwaukee, Wis.	Malt
Farmers Union GTA	Winona, Minn.	Malt
Farmers Union GTA	Chicago, Ill.	Malt

Organizational Relationships—Vertical integration among grain cooperatives in recent years has also been strengthened to a moderate extent by the use of management contracts between some regional and local cooperatives, and by instances of increased centralization of organization.

Management contracts, whereby the regional cooperative agrees to manage the local cooperative, has given the regional increased temporary control of grain marketing in some communities. Such agreements often occur when a local cooperative gets into financial trouble and asks for assistance from the regional. The local cooperative retains its identity and local board; thus ultimate control still lies with the local producer members. The number of local grain cooperatives under complete management contracts with regionals is probably under 5 percent.

In a few instances, the regional grain cooperative has purchased private grain facilities or merged with a local cooperative. Such local elevators become a part of a centralized operation of the regional and thus enhance vertical integration.

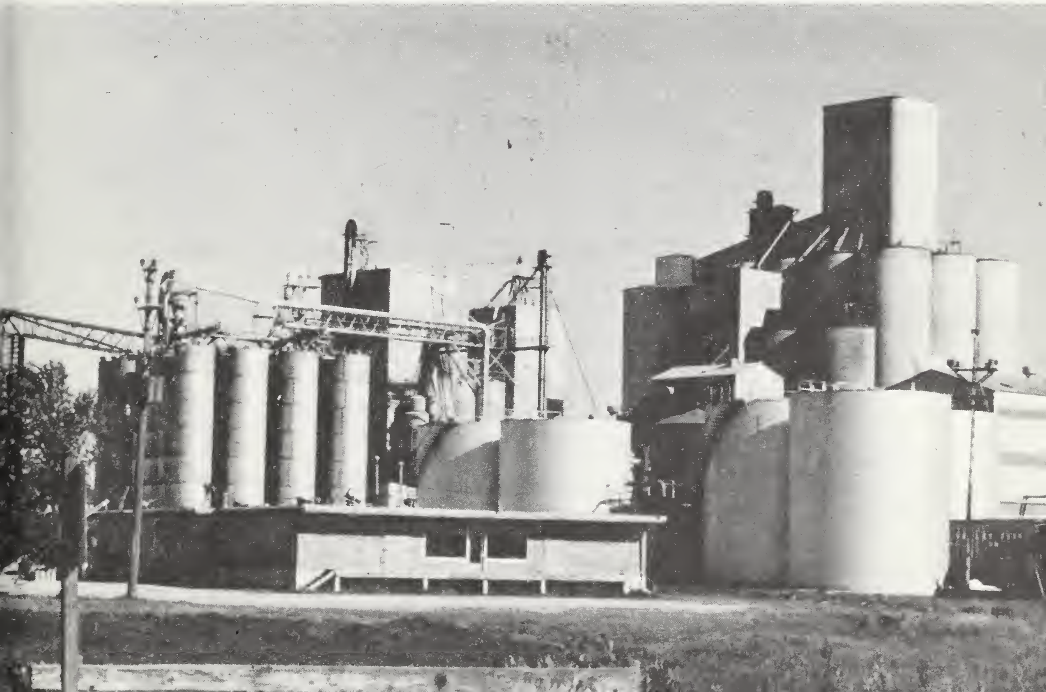
Another organizational aspect that tends to enhance vertical integration has been the formation of four interregionals by two or more primary regionals. The purpose of these interregionals was to operate terminal elevators in strategic locations. Joint ownership helps to assure a high level of utilization. Two of these interregionals have port elevators.

Cooperative Soybean Processing

Farmer cooperatives were among the first businesses to construct and operate soybean processing plants. The early plants used mechanical means (screw-press and expellers) to extract the oil. Modern plants use solvent (hexane) extraction. The accompanying table 7 shows 13 farmer cooperatives operating 17 plants in 1976. All but three are solvent extraction plants. The three screw-press plants are relatively small with 40-50 ton a day capacities. The solvent extraction plants range in daily capacity from 600 to 2,500 tons. Combined rated daily capacity of all cooperative plants in 1976 was about 19,600 tons or 653,330 bushels. Together they processed about 20 percent of total soybeans processed in the United States in the 1975/76 marketing year.

Of the 14 solvent extraction plants, 12 were operated as divisions of regional cooperatives and 2 were independent federated organizations. All depended on local cooperatives for their

Riceland Foods, Inc., Stuttgart, Ark., operates three soybean processing plants. The one above, at Helena, Ark., on the Mississippi River, can store 7.2 million bushels of soybeans and process about 15 million bushels annually. Boone Valley Cooperative Processing Association, Eagle Grove, Iowa, owned by 60,000 farmers through 166 local cooperatives in Iowa, can process more than 15 million bushels annually.



supply of soybeans. The three screw-press plants obtained soybeans from their producer-members.

For the soybean marketing year 1975-76, the 14 operating cooperative soybean processing plants (solvent extraction type only) generated $20 million in net margins. Some mills return net margins to producer-members; others divide them between producer-members and cooperative meal buyers.

Some of these soybean processing cooperatives have

Table 7—Farmer cooperatives operating soybean processing plants, by location and rated daily capacity, 1976

Farmer cooperative[1]	Plant	
	Location	Rated daily capacity
		(Tons)
Solvent-type Plants		
Dawson Mills	Dawson, Minn.	1,250
Boone Valley Cooperative Processing Association	Eagle Grove, Iowa	1,500
Big-4 Division, Land O'Lakes	Ft. Dodge, Iowa	600
(Minneapolis Minn.)	Sheldon, Iowa	1,000
Riceland Foods (Stuttgart, Ark.)	Helena, Ark.	1,500
	Stuttgart, Ark.	2,000
Honeymead Products Company, Farmers Union Grain Terminal Association (Minneapolis, Minn.)	Mankato, Minn.	2,500
Soybean Processing Division, Agri Industries, Inc. (Des Moines, Iowa)	Mason City, Iowa	1,000
Soybean Division, Missouri Farmers Assoication (Columbia, Mo.)	Mexico, Mo.	800
Far-Mar-Co., Inc. (Hutchinson, Ks.)	St. Joseph, Mo.	850
Gold Kist Soy, Gold Kist Inc.	Decatur, Ala.	2,500
(Atlanta, Ga.)[2]	Valdosta, Ga.	1,500
Soybean Processing Plant, Farmland	Sioux City, Iowa	2,000
Industries (Kansas City, Mo.)	Van Buren, Ark.	600
Screw-Press Plants		
Producers Cooperative Association	Girard, Ks.	40 - 50
Farmers Cooperative Association	Ralston, Iowa	40 - 50
West Bend Elevator Company	West Bend, Iowa	40 - 50

[1]Headquarters location of parent regional cooperative listed in parentheses if different from plant location.

[2]In mid-1977, Gold Kist Inc. purchased a soybean processing plant at Marks, Miss. (1,500 tons a day).

expanded their operations to include oil refining and manufacture of soy protein products. Of the 14 solvent extraction plants operating in 1975-76, almost half were involved in at least the degumming stages of refining. Three carried through refining. One produced retail shelf products (salad oil, cooking oil and shortening) under its own label.

Three plants produced soy protein products (flour, grits, concentrates or isolates) for food and industrial uses. Others are studying the feasibility of expanding into this area of further processing.

These individual initiatives on the part of various cooperatives have not precluded their efforts to coordinate oil and meal marketing through a cooperatively owned sales agency—Soy-Cot Sales, Inc. Formed in 1962 and headquartered at Des Plaines, Ill., Soy-Cot has six specific goals: (1) Savings on brokerage expense; (2) seller's agent; (3) savings on freight; (4) package transactions; (5) more markets; and (6) increased mill efficiency. The success of Soy-Cot is at least partially attested to by the almost $1.5 million of net margins it has generated during its 14 years of operation. As of September 1976, Soy-Cot had 21 members—12 soybean processing cooperatives and 9 cottonseed processing cooperatives.

In short, soybeans are here to stay. They are likely to become even more important in the future than they are now. Conversion of soybeans into soy protein products for use in foods is just getting started and is expected to grow about 6 percent a year. Use of meal in animal rations is expected to grow also. Improvement in oil refining will enhance the competitive position of soybean oil.

Soybean producers can, through their cooperatives, benefit materially from these developments. Opportunities exist for better market coordination, vertical and horizontal integration, exports, and market development.

How Grain Cooperatives Benefit Members

Local grain cooperatives perform the functions of receiving, handling, conditioning, storing, and selling grain for their producer members. They also provide information on production and marketing of grain. Since the cooperative is owned by its members they can provide facilities, establish policies, and follow practices for their mutual benefit; that is, they can run the business to best meet their needs.

Regional grain cooperatives that are controlled by producer members, either directly or through their local associations, are the next step along the marketing channel toward the consumer. These regionals are in a position to provide valuable services to their members, both local cooperatives and producers. They are in a key position to largely determine the success of their affiliated local elevators. The most important function of a regional grain cooperative is to provide a cooperative marketing system that will maintain competition and maximize returns to its members. To accomplish this objective, it is important for the regional cooperative to provide the following quality services to affiliated locals: (1) Coordinating and conducting progressive grain marketing programs, (2) merchandising and inventory management assistance, (3) technical assistance for modernizing and constructing grain facilities, (4) economic analyses in locating subterminals, (5) merger assistance, and (6) tax, legal, accounting, and organizational services.

In recent years, local cooperatives have been alert to changing production and marketing patterns, and to changing transportation factors. They have built additional storage, handling, and conditioning facilities to handle the increased off-farm grain sales. In the high density grain producing areas, local cooperatives have been leaders in building subterminals for multi-car, unit train, and barge shipments. Also, many local cooperatives have changed their operations to adjust to the absence of rail service. As a result, grain cooperatives have made sizable savings for grain producers through paying relatively higher prices and/or patronage refunds.

Regional cooperatives have provided leadership to local grain cooperatives primarily by finding better markets, instituting improved marketing programs, and providing various types of assistance to local management. A well-managed regional can do much to help local cooperatives remain competitive and improve farm prices in the years ahead.

Trends and Challenges for Grain Cooperatives

During the next several years, grain cooperatives will face problems created by changes in production, domestic and foreign demand, transportation, business organization, grain quality requirements, grain handling and processing technology, and management effectiveness.

Far-Mar-Co, Inc., Hutchinson, Kans., has developed Ultra-Soy, a textured vegetable protein product used in processed meats and other foods. It is made from soy flour by submission to heat, moisture, and pressure. Riceland Foods, Stuttgart, Ark., further processes and packages soybean oil into its Chef-way brand of vegetable oil and vegetable shortening.

Among these changes, the supply-demand situation for grain is one of the most important. Tentative projections for 1985 compared with 1973-74 indicate that the U.S. production of major grains can be expected to increase a total of 17 to 37 percent, and grain exports, 8 to 21 percent. Thus these projections to 1985 indicate a moderate growth in grain production and only slightly less growth in exports.

Areas for Greater Cooperative Effort

Grain cooperatives can improve the economic position of producer members and cooperatives' efficiency by exerting greater effort and bringing about improvement in the following areas: (1) Grain volume, facilities, and services, (2) quality grain and products, (3) pricing arrangements and commitments, (4) vertical integration, (5) coordination between cooperatives, (6) transportation policies and regulations, (7) organization of cooperatives, and (8) management effectiveness.

Grain Volume, Facilities, and Services—Grain cooperatives must seek greater volume so as to lower unit costs and increase returns to producers. In many instances, volume can be increased with present facilities, but in other instances, facilities should be added to better serve producer members. In planning new facilities, boards of directors need to make careful decisions relating to location, design, and capacity. Cooperatives should make greater efforts to anticipate changes and future needs for elevator facilities and services. Likewise, they should maintain processing facilities that will keep them competitive from the standpoint of efficiency and quality.

Quality Grain and Products—Cooperatives need to maintain a reputation for supplying grain of reliable and consistent quality. This requires the cooperation of members in selecting varieties, harvesting, and conditioning grain. It also requires that cooperatives condition and handle grain in a way that optimizes quality desired by buyers. Cooperatives should seek buyers who are willing to pay premiums for specific types and qualities, including identity preserved grain.

Grain products processed by cooperatives, such as feed, meal, oil, flour and malt, must likewise be reliable and consistent in quality if cooperatives are to continue their success in processing. Cooperatives must keep abreast of the latest

processing and quality control techniques. This requires having their own laboratories and technicians to develop innovative products and methods.

Pricing Arrangements and Commitments—Both local and regional cooperatives need to continually explore ways to improve the pricing arrangements for grain. The objectives should be to provide producer members with acceptable alternative ways of pricing grain which also gives the cooperative flexibility in selling and shipping grain. Forward contracts should be encouraged and coordinated with a well-planned storage and sales program.

Firm commitments through marketing agreements provide an increased opportunity for coordinated grain marketing. Marketing agreements offer the following principal advantages: (1) Minimizes price risks for producers, (2) gives cooperative greater flexibility in selling, and (3) puts marketing in hands of more knowledgeable professionals.

Both producers and their cooperatives should be willing to enter into firm commitments to sell and deliver major quantities of grain, thereby contributing to more orderly grain movements and effective selling.

Vertical Integration—Even though cooperatives have made notable progress in processing and exporting grain, there remain large opportunities for further vertical integration. Opportunities exist in the processing of feed grains, food grains, and oilseed crops. This includes the further refining of vegetable oils and manufacture of products therefrom, and also the manufacture of edible products from soy flakes. Cooperative grain exporting, an important step in cooperative vertical integration, can be greatly enhanced through improved coordination and organization of cooperatives.

Coordination Between Cooperatives—Considerable opportunity exists for cooperatives to improve their grain marketing systems through coordination of transportation and export marketing. The coordination of transportation was greatly enhanced in 1974 by the purchase of a barge line by five grain regionals and a large fertilizer regional. Similar endeavors by grain regionals should be thoroughly studied. For example, the coordination of hopper cars through pooling offers potential for greater utilization and service. The coordination of grain export sales was enhanced by the formation of interregionals such as Farmers Export Co. and Mid-States Terminals. However, much

The towboat, Cooperative Venture, is one of nine towboats operated by Agri-Trans Corporation. The cooperatively owned company has about 320 barges for shipping grain and fertilizer. The high view from the pilot house aids the towboat captain in navigating the sometimes tricky channels.

more coordination between regionals is required to be able to strongly penetrate the grain export markets.

Transportation Policies and Regulations—The total grain volume shipped by cooperatives by all modes of transportation represents a significant portion of total U.S. grain shipments. Thus cooperatives should take a more active leadership role in shaping and influencing transportation policies and regulations. In this regard, the noncooperative segment of the grain trade is relatively more active than cooperatives. Cooperatives must develop or acquire more highly trained personnel for planning and handling important transportation issues involving the government, administrative bodies, transportation companies, and other special interest groups.

Organization of Cooperatives—Cooperatives have significant capabilities with their present organization systems, but there are opportunities for improvement. Present organizational weaknesses that should be remedied include: (1) Failure to eliminate duplication and overlapping efforts, (2) failure to exert joint effort in the use of elevator facilities and transportation equipment, and in forming joint marketing agencies, and (3) failure of cooperatives to speak with one voice to represent interests of producer-members. New or improved organizations should be developed to overcome these failures.

Grain producers should maintain control of their cooperatives through active participation in cooperative meetings, election of directors, and personal contacts. They should insist on a type of organization that will provide for adequate member inputs in decisionmaking. Unless members retain strong control of their cooperatives as they grow and expand, cooperatives may not always reflect the desires of their membership.

Management Effectiveness—Both local and regional grain cooperatives must strive to increase their efficiency of operations and at the same time provide services needed by producer members. Local cooperatives provide the basis for a strong cooperative marketing system, and regional cooperatives provide the organization for coordinating the cooperative marketing system.

Management effectiveness is extremely important to both types of cooperatives. They need enlightened directors and well-

trained management and employees that will effectively carry out the policies set by the board of directors.

Individual regionals should have periodic and thorough management effectiveness evaluations. Such evaluations should include a study of such items as: Policy, planning, decisions, capabilities and performance of management and employees, management information system, financial position, and operating practices. As a continuing program, cooperatives should have measures of effectiveness that are monitored by the board of directors and the top managers.

Cooperative Marketing of Rice

Rice farmers, through their cooperatives, contributed in a major way to the rapid expansion of the U.S. rice industry in this century. Since 1960, production has climbed 130 percent to 128 million hundredweight in 1975.

Principal regions devoted to rice production are the Gulf Coastal Plain, in southwestern Louisiana, and southeastern Texas; broad areas contingent to the Mississippi River in Arkansas, Mississippi, and northeastern Louisiana; and the Central Valley of California (figure 1).

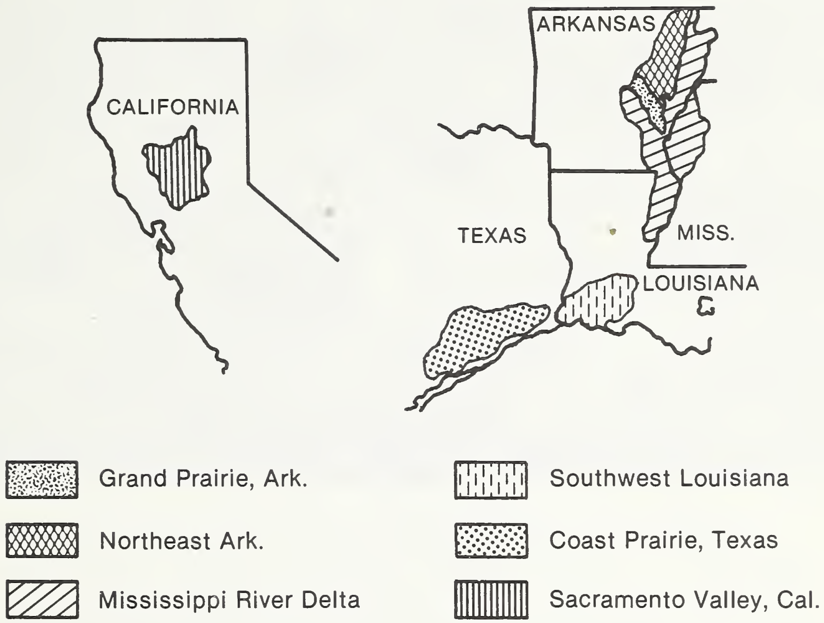
Types and Number

Rice cooperatives are of two types: Local and regional—federated or centralized. Rice growers are direct members of local drying cooperatives. In a federated cooperative organization, the local cooperatives band together to form the regional cooperative that serves the local cooperatives in marketing and processing. In a centralized organization, producers are direct members of the overhead regional cooperative that controls the local cooperative driers that serve producers.

Associations handling rice are generally more diversified than most farmer cooperatives. Their services may include purchasing seed rice, farm machinery, and fertilizer for producers; furnishing irrigation facilities and credit to produce the crop; operating rice dryers to remove excess moisture before storing; storing the rice; operating mills for processing rice for consumers; and moving the rice into trade channels.

In 1975-76, a total of 56 cooperatives in the United States

Figure 1--Major U.S. Rice-Growing Regions

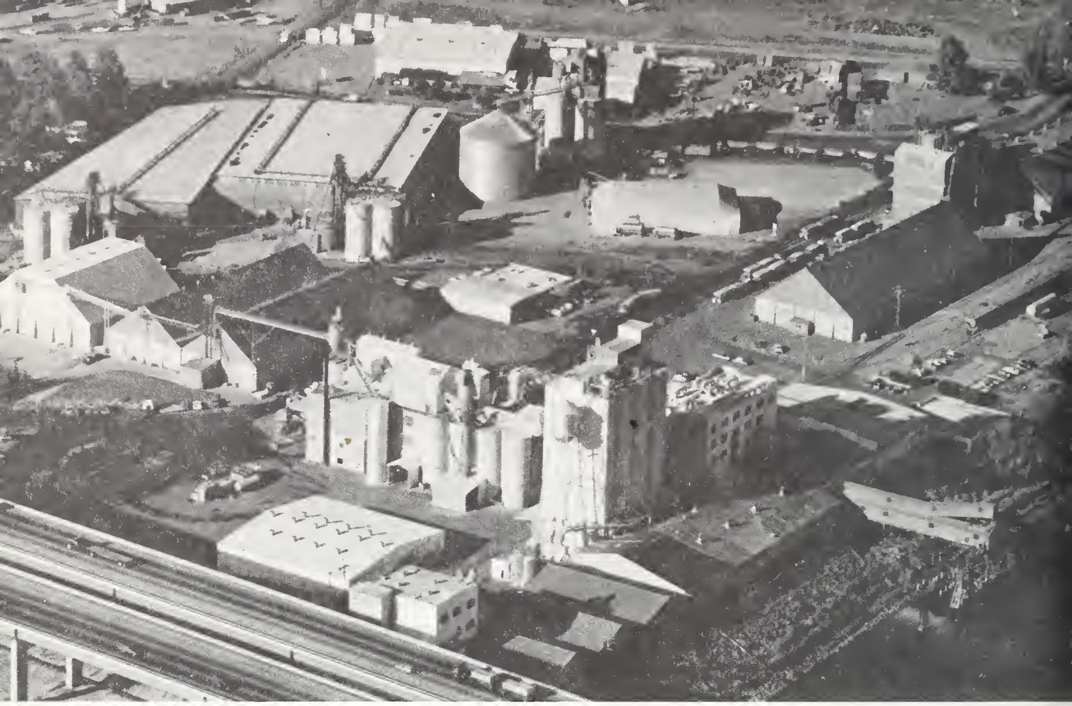


In addition to the five states listed above, Arizona, Florida, Illinois, Missouri, North Carolina, Oklahoma, South Carolina, and Tennessee grow smaller amounts and account for about one-half of one percent of the U.S. acreage.

dried or marketed rice with a net value of $869.4 million. Of this total, 5 were regional rice cooperatives and 51 were local cooperatives—mostly drying associations. The trends in these data since 1950-51 are shown in table 8.

Early Development

As the Nation expanded westward and rice production grew, there was a movement among growers to form cooperatives. At their inception, they provided little more than a selling agency displaying members' rough rice to millers. Most cooperatives soon sought to lease, and then later to buy, milling facilities. As cooperatives acquired milling capacity, they became less dependent on other rice millers as outlets for marketing.



American Rice, Inc., (above) organized in 1969, has grown rapidly and now markets about 15 percent of the U.S. rice crop. It is owned by more than 1,700 Louisiana and Texas rice farmers. Members of Rice Growers Association of California produce more than half the rice grown in the State. The cooperative's West Sacramento headquarters and some of its mills and storage facilities are shown below.

Table 8—Farmer cooperatives marketing rice — number and total sales of rice, selected years — 1951-1976[1]

Period	All cooperatives marketing rice[2]	Value of rice marketed	
		Gross[3]	Net[4]
		1,000 dollars	
1950-51	52	149,677	111,585
1955-56	61	165,040	140,392
1960-61	61	205,427	177,684
1965-66	59	341,115	272,193
1970-71	62	445,244	365,244
1974-75[5]	62	1,193,826	1,146,271
1975-76[6]	56	870,896	869,406

[1]Revised to include Alaska and Hawaii prior to 1957-58.

[2]Includes local, regional, and national cooperatives whose sales of rice exceeded 50 percent of total sales. Some are primarily marketing cooperatives and others are supply cooperatives with marketing operations.

[3]Includes intercooperative business; i.e., sales of regional or terminal sales cooperatives for local cooperatives.

[4]Excludes intercooperative business to eliminate duplication.

[5]Revised.

[6]Preliminary.

Two distinct phases of cooperative formation occurred. The first phase occurred in the 1920's in the South Central States and in California. In 1921, three rice cooperatives were founded: American Rice Growers Cooperative Association at Lake Charles, La.; Arkansas Rice Growers Cooperative Association (Riceland Foods) at Stuttgart, Ark.; and Rice Growers Association of California at West Sacramento, Calif.

The second phase of cooperative formation occurred during World War II when there was a sharp growth in U.S. rice production. In 1943, Producers Rice Mill at Stuttgart, Ark., was formed. In 1944, Farmers' Rice Cooperative of West Sacramento, Calif., was founded. Cooperatives were prominent in developing and encouraging artificial drying of rice during this period, and farmers saw opportunities in forming local associations to reap the efficiencies of scale in use of buildings, fuel, and manpower.

Growth Since World War II

As rice production increased in the post World War II years, the number and size of local cooperatives with rice driers increased as did the capacity and volume of the five regional cooperatives.

In 1969 the American Rice Growers' Cooperative Association formed American Rice, Inc., which assumed control of drying, grading, storing, and selling rice delivered by producer members with whom it contracts. Rice of the same grade was pooled, assuring buyers of homogenous quality and the ability to deliver rice in large volumes. Next, American Rice, Inc., integrated forward into milling of rice. In 1974 American Rice, Inc., acquired Blue Ribbon Rice Mills of Houston, Tex., a centralized cooperative whose members, like American Rice, are producers. This provided American Rice, Inc., with milling facilities, expanded volume, and a brand label, "Blue Ribbon."

One of the most significant developments affecting rice growers was the change to bulk handling of rice. This included (1) Using the combine in harvesting the crop, (2) removing excess moisture from the harvested product by artificial means, and (3) storing rice in bulk instead of in bags.

Recent years have seen the local drying cooperatives expanding storage and drying facilities and the regional rice cooperatives broadening their processing and marketing operations in milling, parboiling, and packaging. They operate several mills and mill about 85 percent of the volume they market, or about 45 percent of the total rice milled in the United States. They further process (parboil or prepare for specialty or brewery use) about another 8-10 percent of their marketings. Three of the regionals have established their own brand names for labeled packaged rice.

In addition to domestic sales to other millers, industrial users, and consumers, the regionals look to international markets. They export 60-65 percent of the total quantity they market.

At the end of 1976, the five regional rice cooperatives had assets totaling $176 million. They sold 57 million hundredweight of rice for 10,215 producer-members at a sales value of $608 million (table 9). These sales constituted about 63 percent of total volume of rice sold by farmers in Arkansas; 59 percent in Cali-

fornia; 27 percent of the total for Texas and Louisiana combined; and 47 percent of the total marketed in the four States.

The major rice cooperatives use marketing agreements with grower members who in advance of the season commit a designated crop to the cooperative. When the crop is delivered, it is placed in a pool where rice of similar grade and variety is dried, stored, processed, and marketed. At the time of delivery, sampling, and grading, growers receive a first partial payment. Periodic progress payments then are made as the rice is milled and marketed. When the market year is completed and the final payment made, total net proceeds for the rice are computed. Capital retains are used to finance much of the operation.

Financial Aspects

At the end of 1976, financial data on 50 predominantly rice marketing cooperatives revealed they had $228 million in assets of which 39 percent was represented by equity capital, 38 percent by borrowings, and 23 percent by other liabilities.

About 49 percent of their $87.6 million of equity capital was evidenced by capital stock, 50 percent by equity certificates or allocated credits, and less than 1 percent by unallocated reserves

Table 9—Five regional rice marketing cooperatives and a comparison of their volume with the production in four major rice producing states, 1975-76[1]

Item	Unit	Amount
Producer members	Number	10,215
Assets	Million dollars	176
Gross sales	Million dollars	608
Co-op volume	Million hundredweight	57
4-state farm sales volume[2]	Million hundredweight	120
Co-op volume as a percent of 4-state production	Percent	47

[1]Includes Arkansas Rice Growers Cooperative Association and Producers Rice Mill, Inc., both at Stuttgart, Ark.; American Rice, Inc., Houston, Tex.; and Farmers Rice Cooperative and Rice Growers Association of California, both at West Sacramento, Calif.

[2]The four major rice producing states were Arkansas, California, Texas, and Louisiana.

Rice harvest takes place in field adjacent to the Stuttgart, Ark., facilities of Riceland Foods, the world's largest storer and miller of rice. Riceland has a full line of packaged and bulk rice for domestic and foreign consumption.

Table 10—Comparison of assets, member equity, net savings and distribution of net savings, rice marketing cooperatives[1], fiscal 1970 and 1976

Item	1970	1976
	Million dollars	
Total assets	135.0	228.0
Member equity	65.9	87.6
Total net margins	24.0	25.7
Distribution of net savings:	*Percent*	
Dividends on capital	6.4	9.8
Cash patronage refunds	74.8	62.2
Noncash patronage refunds	16.8	27.2
Unalocated reserves (surplus)	(2)	0.5
Income taxes	2.0	0.3
Total	100.0	100.0

[1]Data was obtained from 54 primarily rice local and regional marketing cooperatives in 1970, and 50 in 1976.
[2]Less than .05 percent.

(surplus). About 49 percent of their allocated equity capital had been acquired by capital retains, 43 percent by retention of patronage refunds, and 8 percent by purchase of capital stock.

A comparison of primarily rice marketing cooperatives in 1970 and 1976 provides insights into financial changes and status of rice cooperatives (table 10). During this 6-year period, total assets increased from $135 million to $228 million; member equity increased from $65.9 to $87.6 million; and annual net margins increased from $24 to $25.7 million. Member equity as a percent of total assets decreased from 49 to 38 percent.

Distribution of net margins indicated that in 1976 a greater share went to dividends on capital and noncash patronage refunds than occurred in 1970. Cash patronage dividends, the most important distribution, declined from 74.8 to 62.2 percent.

Future for Rice Cooperatives

Cooperatives and their grower members can expect rice farms to decrease slightly in number and increase in size in the years ahead. Production, also, may move upward in response to growing international trade. Technology may accentuate production increases by enhancing yield per acre. Supply

expansion seems the market reality ahead for U.S. rice growers and their cooperatives.

Growers will continue to be pressured to find opportunities for market expansion, both at home and abroad. Appropriate market development strategies for cooperatives are: Intensification of product innovation to serve consumer needs for nutrition, flavor, and convenience; promotional efforts to fix consumer preferences for cooperative products; and gradual expansion from regional to national marketing territories. Perhaps economies of promotion and distribution will prompt joint marketing efforts by two or more cooperatives. Because rice consumption per person has grown slowly in the United States, domestic market growth is not likely to match production increases. Foreign markets would seem to offer the most potential growth opportunity. More promising commercial markets overseas are the oil-rich countries and, to some extent, Eastern Europe and the Soviet Union.

The supply-demand equation facing U.S. rice growers and their cooperatives is an ongoing challenge. One thing is certain—growers cannot continue to expand production without simultaneously developing domestic and export markets. More than 9,000 member-growers of cooperatives will look to their cooperatives to help them meet this challenge.

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COOPERATIVE PROGRAM

U.S. Department of Agriculture
Economics, Statistics, and Cooperatives Service

The Cooperative Program of ESCS provides research, management, and educational assistance to cooperatives to strengthen the economic position of farmers and other rural residents. It works directly with cooperative leaders and Federal and State agencies to improve organization, leadership, and operation of cooperatives and to give guidance to further development.

The Program (1) helps farmers and other rural residents obtain supplies and services at lower cost and to get better prices for products they sell; (2) advises rural residents on developing existing resources through cooperative action to enhance rural living; (3) helps cooperatives improve services and operating efficiency; (4) informs members, directors, employees, and the public on how cooperatives work and benefit their members and their communities; and (5) encourages international cooperative programs.

The Program publishes research and education materials and issues *Farmer Cooperatives*. All programs and activities are conducted on a nondiscriminatory basis, without regard to race, creed, color, sex, or national origin.